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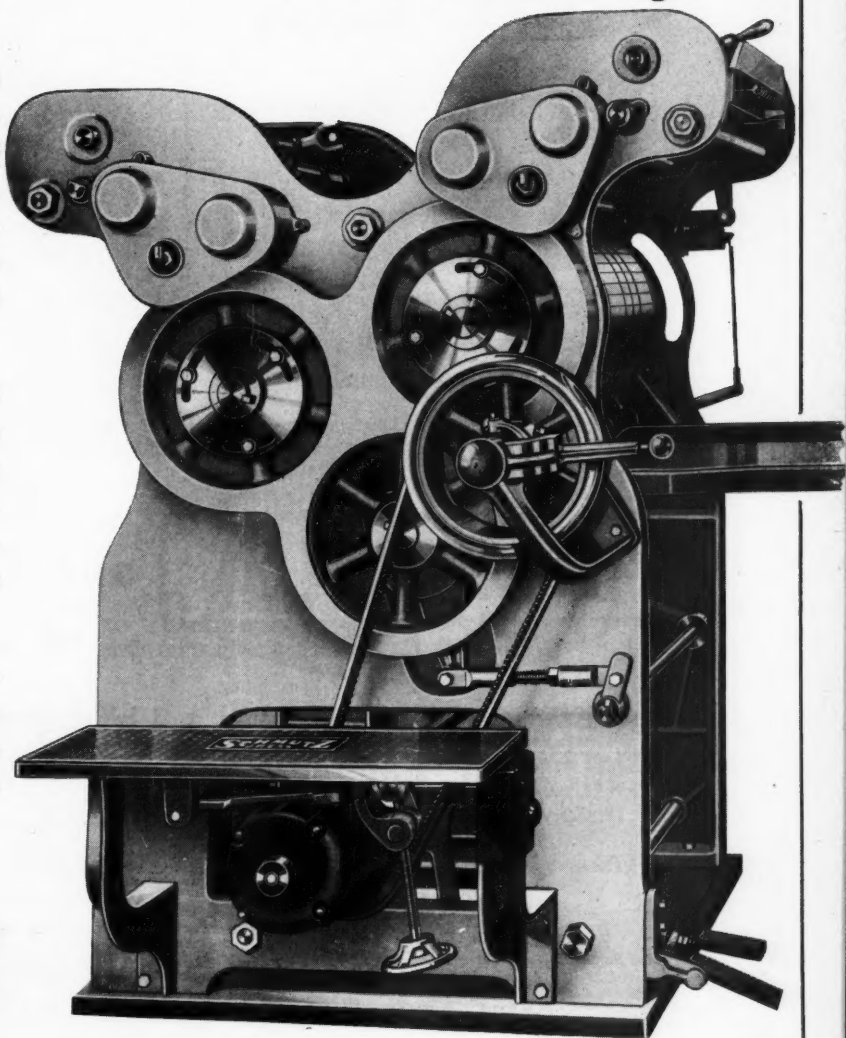
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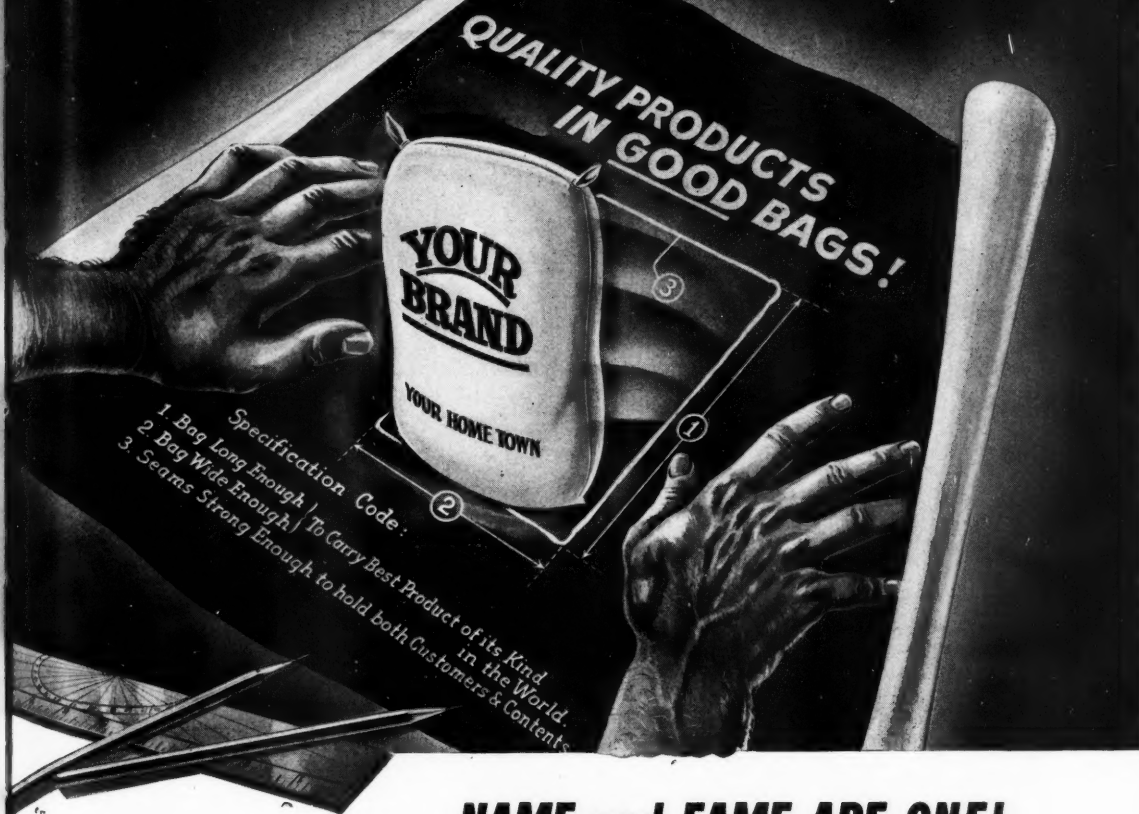
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See page 29



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# AMERICAN FERTILIZER

"That man is a benefactor to his race who makes two blades of grass to grow where but one grew before."

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FEBRUARY 23, 1946

No. 4

## Increasing Use of Fertilizer

From the 1945 Annual Report of Secretary of Agriculture, Clinton P. Anderson

**O**N A nationwide basis the present rate of use of lime and fertilizers is the highest in our history; yet it would be considerably higher were more of these materials available. Under economic conditions not greatly different from those of 1943, it would pay most farmers to use considerably increased quantities. Specifically, under such conditions, it would pay farmers to use about double the amount of fertilizer they used in 1944, or about four times as much as the average consumption of the prewar years 1935-39. In liming materials it would pay them, under the assumed favorable conditions, to use nearly three times as much as they did in 1944.

In recent decades the use of fertilizers and liming materials in the United States has increased greatly. Thus between the close of World War I and 1930, the use of fertilizer plant nutrients increased about 70 per cent. In the depression years of the early 1930's it dropped to nearly one-half of the 1930 level. By 1937, however, the consumption had recovered, and had even gone above that of 1930. There were similar changes in the use of liming materials. Between 1940 and 1944 great additional expansion took place in the uses of fertilizers and liming materials, with the result that in 1944 consumption of fertilizers was 85 per cent above the prewar (1935-39) level, while the consumption of lime was approximately 170 per cent greater. Nevertheless, further substantial increases in the consumption of these materials would pay in the postwar years under the assumption of agricultural prosperity.

The present record use of fertilizers and

lime is far short of the quantity needed to maintain, restore, and improve our soils. Adequate use of fertilizers and liming materials extends beyond the application of them mainly to cash crops; it includes fertilization and liming for soil maintenance and the development of balanced farming systems. Among other things, soil protection requires a vigorous growth of erosion-preventing and soil-conserving plants. This can generally not be had without a liberal use of fertilizer and lime. In general, however, farm operators do not use fertilizer and lime in adequate quantities for this purpose, partly because the present fertilizer production and distribution capacity is not sufficient and partly because farm operators do not fully appreciate the value of fertilizer and lime in soil management and soil conservation.

Economists, agronomists, and others have estimated the quantities of fertilizer and lime it would pay farmers to use in different areas of the various States. They assumed economic conditions which would provide a national income about equal to that of 1943. In addition, they assumed crop and livestock systems that would maintain or improve soil resources, and be profitable to farmers over a period of years. On this basis the estimates came out differently from what they would have done had the investigators simply considered past relationships between farm incomes and farmers' purchases of fertilizing materials. Specifically, they allowed for applications of fertilizer and lime on a scale regarded as adequate for soil maintenance and soil improvement in an efficient and considerably reorganized production system.

The indicated desirable uses seem large in comparison with current and former practice. This is because they look beyond high immediate production of cash crops to the development of balanced farming systems, and provide also for the maintenance and improvement of land resources. For example, the estimated desirable nationwide use of total lime (783 per cent of the 1935-39 level) assumes provision for complete coverage, at recommended intervals, of all the acreage of crop and pasture land that needs lime in order to maintain a desirable system of land use. The nearly fourfold recommended increase of total plant nutrients over the 1935-39 level similarly represents not only the annual quantities that would pay but those that would also permit soil maintenance and balanced farming. This tremendously increased use of fertilizers and liming materials is desirable because many farms are seriously deficient in mineral elements and other plant nutrients and cannot be brought up to the level of good management if the missing elements are not supplied. In fact it will be difficult to protect the soil from serious erosion, to broaden the range of crops that should be grown for desirable levels of living, and otherwise to improve the quality of the nation's food supply while maintaining adequate soil productivity to supply a long-continued high level of demand. In most regions erosion control depends greatly on soil improvement by means of soil-conserving crops the growing of which requires lime and fertilizer.

Considerable change from current fertilization and liming practice would be necessary. For example, more than half the recommended use of phosphates and nearly half the recommended use of plant nutrients would be pasture and close-growing crops. Cash crops and corn would receive three-fourths of the nitrogen but only a little more than half of the total plant nutrients. This distribution would vary considerably from the present one and would involve increased attention to soil maintenance and balanced cropping, largely through the production of grasses and legumes. In some areas the recommendations call for a much larger use of fertilizers than farmers would consider profitable on a short term basis. The pay-off would be in terms of facilitating shifts from one-crop farming to more balanced farming systems, of long-time soil conservation, and of more stable average productivity. In many areas greater use of fertilizer and lime is indispensable in making necessary changes in cropping systems.

## Summers Buys Maine Fish Meal Plant

The Summers Fertilizer Company, through its subsidiary, Maine Food Processors, has purchased the sardine meal manufacturing facilities of the Globe Canning Company at Eastport, Maine, according to announcement by J. E. Totman, President. These facilities for many years have converted the sardine waste of this area into edible sardine meal and sardine oil. The plant has a capacity of several thousand tons per annum.

Maine Food Processors was formed by Summers at the start of the war to dehydrate potatoes for the Army and Navy. They were one of the first companies to actually produce acceptable dehydrated Maine potatoes. In November, 1944, their facilities at Winterport, Maine, were totally destroyed by fire. Since that date they have been distributors of animal feed products. As conditions permit, they plan to develop, at their newly acquired facilities, other food and chemical products.

Rudolph Koops, former Assistant Manager, will operate the plant under the general direction of Grant J. Campbell, Vice-President of Summers.

## Top-Dressing Urged for Small Grains

While increased acreage of small grains has been recommended in crop production for Tennessee in the year ahead, one of the easiest ways of helping to relieve the grain shortage is through top-dressing, says H. W. Wellhausen, University of Tennessee Agricultural Extension agronomist.

Top-dressing is recommended for all small grain which normally would not yield over 20 bushels of wheat, 30 bushels of barley, or 35 to 40 bushels of oats per acre. Per acre applications of 100 pounds of nitrate of soda equivalent in February, or not later than March 15th are recommended. Later or heavier applications may result in delaying maturity, increasing lodging and rust hazards, depending on weather conditions between now and harvest time, Wellhausen says.

Small grain yields on the majority of farms can be increased from 30 to 50 per cent by top-dressing with nitrogen fertilizer in the proper amounts at the right time.

Heavier applications up to 200 pounds per acre of nitrate of soda equivalent are recommended where the crop is to be grazed out, or where the crop is to be grazed heavy and late, and later left to mature for grain.

## Correcting Potash Deficiency in Growing Corn\*

By JOHN B. WASHKO

**T**HE occurrence of an unusual corn disease is reported by farmers from time to time. It is noticeable particularly when the corn is young, but it can occur at any stage of growth. A close examination of affected plants may disclose as the casual agent, not an organism, but rather a deficiency of an essential nutrient—potash in particular.

Potash deficiency in corn is identified by its characteristic symptoms. In young plants the symptoms are a stunted growth and a yellowish-green or yellow discoloration of the leaves. Frequently the leaves are streaked with yellow or their edges and tips are dry and appear scorched, or fired.

The symptoms are similar in older plants, but the marginal browning of the leaves is more conspicuous. When the deficiency is pronounced, the plants are dwarfed and weak and frequently lodge, and are an easy prey to disease organisms. Obviously the grain production of such plants is low. If ears are produced, they may be only nubbins with grain of poor quality.

### Occurrence

Potash starvation in corn occurs when the supply of available potash in the soil fails to meet the requirements of the plant for normal growth. Whether potash becomes a limiting factor in plant growth is determined by several conditions:

1. *Nature of the Soil.*—Some soils are naturally poorer in potash than others. In general, poorly drained soils and soils derived from sandy or cherty materials are low in potash.

2. *Kind of Crop.*—Field crops vary in their need for potash. Grass-clover hay crops, many legumes, root crops, cotton, and tobacco have high requirements. Small grain and pasture grasses require only moderate amounts, with corn occupying an intermediate position. Root characteristics also are important. Crops such as sericea and alfalfa,

with deep roots, obtain a material part of their potash from the subsoil. Shallow-rooted crops, such as the annual lespedezas, must obtain theirs within a comparatively shallow zone. This may lead to quicker exhaustion of the available surface-soil potash.

3. *Crop Removal.*—Large amounts of potash are removed from the soil by harvested crops. Under continued removal of the entire crop from the land, potash exhaustion is only a matter of time. For example, 50 bushels of corn, including the stover, removes approximately 58 pounds of potash.

4. *Fertilization Practices.*—Potash may become a limiting factor in crop production where either too little barnyard manure is used or improper fertilization practices are followed, such as the use of phosphate alone, phosphate and lime only, fertilizers low in potash, and sometimes overliming.

### Potash Fertilization Tests

When potash starvation is detected in corn, the application of a potash salt is recommended. Information has been lacking, however, as to the amount to use—in particular for potash-starved corn at different stages of maturity.

An unusual opportunity to study this problem was presented in 1944 by a field of corn located in Knox County which exhibited severe potash-deficiency symptoms. This field had been in Korean lespedeza for the preceding two crop years. The only fertilization the corn crop received was 100 pounds per acre of a 20 per cent superphosphate applied in the row at the time of planting. The soil was a Fullerton cherty silt loam, testing very low in potash and showing considerable variability within the field.

Three potash-fertilization tests were put out in this field, each on a different date. Muriate of potash was applied at the rates of 0, 50, 100, and 200 pounds per acre. This was equivalent to 0, 25, 50, and 100 pounds of potash. Nitrogen in the form of ammonium nitrate was applied to all plots at the rate of 30 pounds of nitrogen per acre, so that

\*Reprinted from Circular No. 93, University of Tennessee Agricultural Experiment Station, Knoxville, Tennessee.



### January Tag Sales

Fertilizer tax tag sales in 17 States in January based on reports of State control officials to The National Fertilizer Association, were equivalent to 1,401,000 tons. This represented an increase of 4 per cent over January, 1945, and was the largest tonnage ever reported for any January. Ten of the 17 States reported increases over last year. The principal increase was in the Midwest, where reported sales were 108,000 tons larger than in January, 1945. This compares with a decline of 49,000 tons in the South.

Tag sales in the first seven months of the current fiscal year, July through January, were substantially larger than in any preceding period. Sales this year have been more than three times as large as in the pre-war period. This sharp increase has resulted in (1) the increased demand for fertilizer, and (2) the early buying of fertilizer. In 1936-1938, 23 per cent of the year's tag sales were made

in July-January; those months in 1945 accounted for 45 per cent of the total year's tag sales. Comparable percentages for the Midwest were 51 and 57 per cent.

Declines in July-January tag sales from the corresponding period of 1944-1945 were reported by South Carolina, Alabama, Mississippi, Tennessee, Arkansas and Kansas.

The monthly range in sales in the South in the three pre-war years, 1936-1938, was 0.9%-32.4%, while in 1945 it was only 2.1%-19.2%. There has been an even greater smoothing out of the monthly distribution in the Midwest, where the range was 0.2%-20.1% in 1936-1938 and 4.4%-11.7% in 1945. The change in the Midwest is due in part to the increased use of fertilizer on spring planted crops as well as to the earlier buying.

The change which has taken place in the distribution of tag sales, partly as a result of the early buying program, is indicated by the following table.

DISTRIBUTION OF MONTHLY TAG SALES  
EACH MONTH IN PER CENT OF ANNUAL TOTAL

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>SOUTH:</b>												
1936-1938	8.4	13.9	32.4	23.5	5.5	2.2	0.9	1.0	2.9	2.7	2.6	4.0
1945	17.1	15.5	19.2	11.8	6.2	2.4	2.1	2.8	4.2	5.5	5.3	7.9
<b>MIDWEST:</b>												
1936-1938	3.9	8.4	17.8	12.4	10.5	0.2	2.8	20.1	19.3	4.2	0.1	0.3
1945	11.7	10.9	8.2	10.1	7.0	6.5	8.1	9.8	6.7	4.4	8.0	8.6

FERTILIZER TAX TAG SALES  
COMPILED BY THE NATIONAL FERTILIZER ASSOCIATION

STATE	JANUARY			% of '44-'45	JULY-JANUARY		
	1946 Tons	1945 Tons	1944 Tons		1945-46 Tons	1944-45 Tons	1943-44 Tons
Virginia.....	80,710	77,677	66,574	109	288,077	264,309	235,539
N. Carolina.....	293,965	262,415	256,063	113	658,596	581,505	590,191
S. Carolina.....	159,889	161,618	134,358	96	328,739	342,578	349,783
Georgia.....	169,643	177,895	198,018	105	397,382	379,126	422,199
Florida.....	132,154	122,720	105,572	121	598,854	494,709	447,661
Alabama.....	123,300	159,750	153,600	83	240,500	290,050	316,900
Mississippi.....	57,200	82,065	84,000	77	158,550	206,808	247,645
Tennessee.....	25,452	21,584	21,288	85	80,133	94,638	69,159
Arkansas.....	13,900	37,200	19,358	60	42,400	70,300	61,248
Louisiana.....	28,460	41,261	31,600	114	141,684	124,626	103,830
Texas.....	51,662	44,610	17,900	119	135,405	113,743	76,500
Oklahoma.....	7,500	4,042	4,150	119	16,160	13,599	10,585
<i>Total South.....</i>	<i>1,143,835</i>	<i>1,192,837</i>	<i>1,112,481</i>	<i>104</i>	<i>3,086,480</i>	<i>2,975,991</i>	<i>2,931,240</i>
Indiana.....	83,223	43,550	24,689	129	403,029	313,142	287,944
Illinois.....	50,150	20,975	28,100	150	164,975	110,060	72,651
Kentucky.....	66,570	51,130	29,388	113	130,521	130,164	78,175
Missouri.....	53,087	27,028	36,962	125	123,113	98,363	88,858
Kansas.....	4,550	7,305	4,680	98	21,830	22,325	17,714
<i>Total Midwest.....</i>	<i>257,580</i>	<i>149,988</i>	<i>123,819</i>	<i>128</i>	<i>843,468</i>	<i>659,054</i>	<i>545,342</i>
<i>Grand Total.....</i>	<i>1,401,415</i>	<i>1,342,825</i>	<i>1,236,300</i>	<i>108</i>	<i>3,929,948</i>	<i>3,635,045</i>	<i>3,476,582</i>

## Anti-Racketeering Bill Deserves Support

Union Restrictions on Owner Truck Transportation May Seriously Affect Both  
Farmer and Fertilizer Manufacturer in Delivering Fertilizers

WITH the lifting of rationing restrictions on gasoline following V-J Day and the subsequent improvement in the tire situation, the increase in truck transportation of goods has given special significance to a measure now in Congress to free farmers and other truck owners from the artificial restrictions now imposed by some of the unions. The subject is of interest to the fertilizer manufacturer, not only because the farmer victims of the racket are his friends and customers, but because this "Union Racket" may some day be applied to the trucking of his own goods from plant to dealer or farmer.

In an effort to correct the evil consequences of the Supreme Court decision in the Teamsters' Union case of nearly four years ago, the House of Representatives on December 12th passed the Hobbs Anti-Racketeering Bill, H. R. 32, which has been referred to the Senate committee on judiciary, headed by Senator Pat McCarran of Nevada.

Foes of the measure, the labor unions, together with their supporters in Congress, have publicly declared their intention to kill the bill in the Senate, just as they succeeded in preventing action on a similar bill that was passed by the House by a big majority in the last Congress.

### Supreme Court Protected Racket

Recalling the circumstances that brought about the introduction of the Hobbs Bill, on March 2, 1942, Associate Justice James F. Byrnes handed down a decision of the Supreme Court, in which it was held by the Court that Local 807 of the Teamsters' Union, of New York, together with 26 of its individual members, were not guilty of violating the Anti-Racketeering Act of 1934.

The evidence presented in the case showed that it was a common practice for members of the teamsters' union to hold up motor trucks at the New York end of the Holland Tunnel and demand a day's wages for a union member to drive the truck to its destination, often only a few squares away.

If the driver of the truck said he did not

need any help, he was informed that he would have to pay the fee just the same. This amounted to \$9.42 for a large truck, or \$8.41 for a small one. Threats, intimidation, and often physical violence, were used to compel the owner or driver of the truck to comply with the demands of the members of the teamsters' union. In one instance, a farmer and two of his sons, while attempting to deliver a load of produce to a ship berthed in the Hudson, were thrown into the river and narrowly escaped drowning. A large proportion of the trucks held up were owned or driven by farmers.

When the perpetrators of these outrages were indicted they were found guilty, after a trial of six weeks in a United States district court. However, the Circuit Court of Appeals reversed the lower court, whereupon the case was taken to the United States Supreme Court.

### Gist of the Decision

In handing down the decision of the Supreme Court, Justice Byrnes, who is now Secretary of State, declared that the Anti-Racketeering Act was passed "to close gaps in existing Federal laws and to render more difficult the activities of predatory criminal gangs of the Kelly and Dillinger types," but that the law did not apply to labor unions or their members!

According to the decision, "accepting payments even where services are refused," is a form of union activity beyond the ban of the Anti-Racketeering Act, and therefore, beyond the reach of present Federal laws. Continuing, the Court in its decision said:

*"This does not mean that such activities are beyond the reach of Federal legislative control. Nor does it mean that they need go unpunished. The power of state and local authorities to punish acts of violence is beyond question. It is not diminished or affected by the circumstance that the violence may be the growth of a labor dispute. The use of violence disclosed by this case is plainly subject to the ordinary criminal law."*

(Continued on page 26)

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## Maryland Fertilizer Conference

The Maryland Fertilizer Conference, held at College Park, February 15th, was attended by some 55 fertilizer representatives and college workers. T. B. Symons, Dean of Agriculture and Director of Extension, in his address of welcome, discussed the importance of experimental work and the relation of the experiment station to the development of agriculture and related industries. S. P. Stabler, superintendent of the agronomy farm, discussed two years' results of a corn fertilizer test. Plowing down 700 pounds of a 7-7-7 fertilizer and plowing down 150 pounds of ammonium nitrate each increased the yield, with complete fertilizer slightly the better. Where fertilizer was plowed down, side-dressing produced no increase in yield.

W. B. Posey, tobacco specialist, in discussing fertilizers for Maryland tobacco stated that the nitrogen should be derived from one-third ammonium sulphate, one-third cottonseed meal, and one-third nitrate of soda, and the potash should be sulphate of potash.

R. P. Thomas, professor of soils, stated that two-thirds of the fertilizer for corn should be plowed down and one-third applied at planting. The variation of pH between 4.5 and 6.5 did not affect the corn yield, but in the rotation barley and wheat showed an increase, and on hay an increase of quality in the case of the higher pH.

C. H. Mahoney, professor of olericulture, in discussing fertilizing vegetable crops stated he is not so much interested in the specific grade of fertilizer applied but is more interested in applying large amounts so that the plant will have plenty of plant food.

A. L. Schrader, professor of pomology, recommended 10-6-4 fertilizer for fruit trees, pointing out that when applied in ample amounts both the tree and the cover crop will thrive.

I. C. Haut, associate professor of pomology, recommended 400 to 500 pounds of 5-10-5 for strawberries and stated that strawberries and raspberries, because they produce high returns, should not be limited on plant food.

A. L. Mehring reviewed the fertilizer material situation, showing that the steel strike curtailed the supply of sulphate of ammonia but stated that the supply of nitrogen solutions was larger than in 1945. The supply of phosphoric acid and potash is larger than last year, so the total supply of materials will be about the same as last year.

## North Carolina Raises Limit on Chlorine in Tobacco Fertilizers

Following a conference of North Carolina agricultural officials, farmers and fertilizer manufacturers, the State Board of Agriculture has amended its regulations to permit the sale, during the present 1945-1946 season, of tobacco fertilizer having a chlorine content of 3.5 per cent. Heretofore the maximum chlorine content was fixed at 3 per cent. It was specified, however, that all tobacco fertilizer sold this spring with a chlorine content of more than 3 per cent must have on the bag a yellow tag warning the farmer that it has this extra amount.

This action was brought about by the report that one fertilizer company in the State had prepared a sizeable quantity of tobacco fertilizer with a chlorine content above the old 3 per cent limit. In the discussion on the subject of the action to be taken, some members of the industry questioned the authority of the Board of Agriculture to establish the ingredients or the content of any ingredient in any fertilizer sold in North Carolina. The majority present, however, felt that the industry should cooperate with the State agronomists in accepting the recommendations and limitations set by the Board. The matter was referred to a committee from the Board who recommended an increase in the permissible chlorine content for this season only, in view of the shortage of sulphate of potash and the anticipated shortage of tobacco fertilizers in general, and Agricultural Commissioner Kerr Scott accordingly announced the amendment to its fertilizer regulations as outlined above.

## Bemis Bag Elects Officers

At the annual meeting of the Board of Directors of the Bemis Brothers Bag Co., held at St. Louis, Missouri, on February 7, 1946, four new officers were elected. H. V. Howes, Director of Sales, located at St. Louis, was elected Vice-President. H. P. Claussen, Director of the Cotton Department located at Boston, was elected Vice-President. Judson Bemis, Manager of the Bemis plant at Minneapolis, was elected Vice-President. T. W. Little, an executive in the Burlap Importing Department at Boston, was elected Treasurer.

The other officers of the company are: F. G. Bemis, President; H. H. Allen, Vice-

President; D. Belcher, Vice-President; F. M. Ewer, Vice-President; P. E. Morrill, Vice-President; R. Ramsay, Secretary and Assistant Treasurer.

The following Directors were re-elected at the annual meeting of the stockholders of the company: A. V. Phillips, H. H. Allen, A. C. Carpenter, F. M. Ewer, D. Belcher, C. F. Scott, F. G. Bemis, R. D. McAusland, P. E. Morrill, Judson Bemis, A. H. Clark, H. V. Howes.

A. C. Carpenter, First Vice-President, and A. V. Phillips, Second Vice-President, are retiring from their active administrative responsibilities as officers after 49 and 54 years of service respectively. They will continue with the company as Directors and Senior Counselors.

Mr. Carpenter started as Superintendent at the bag factory at New Orleans and later became Manager there and at St. Louis. He was first elected a Director of the company in 1920 and Vice-President in 1923.

Mr. Phillips began his work with the company as an accountant in St. Louis. For many years he was in charge of burlap purchasing in Boston and spent considerable time during the twenties in India, directing the operations of an affiliated jute mill. He was first elected a Director and Vice-President of the Company in 1911.

These men, with their more than a century of combined service, have contributed largely to the development and growth of the company.

## Manganese Booklet Issued

A new booklet on "Recommendations for Feeding Manganese" has been issued by J. F. Wischhusen, of Manganese Research & Development Foundation. The pamphlet treats briefly on the function of manganese in the feeding and growth of poultry, cattle, sheep, hogs, horses, mules, and fur-bearing animals, with a separate section for its use on soils. Copies of the booklet can be obtained by writing to the headquarters of the Foundation, Cleveland 10, Ohio.

Farm cash income in 1945 set a new record, totaling \$21,468,000,000, an increase of \$430,000,000 over 1944. Income from all crops increased from over 8½ billion in 1944 to almost 9½ billion in 1945. Livestock and livestock products brought in 11.2 billion, a drop of 320 millions, while government payments decreased to 769 millions.

### Record Potash Production in 1945

Deliveries of American potash for agricultural and chemical use reached an all-time high in 1945. This is the eleventh consecutive year in which deliveries exceeded those of the preceding year. The five major producers delivered during the calendar year 1945 a total of 1,585,473 tons of potash salts containing 868,186 tons of  $K_2O$ , according to data released by the American Potash Institute. This represents an increase of 52,351 tons  $K_2O$  or 6.4% over 1944, the previous high year.

During 1945, 695,076 tons  $K_2O$  were delivered for agricultural purposes within the continental U. S., an increase of 42,816 tons over 1944. Canada, Cuba, Puerto Rico, and Hawaii received 44,454, 4,070, 19,048 and 10,776 tons respectively. Other exports amounted to 8,897 tons  $K_2O$ .

Georgia was the leading state for agricultural deliveries with 64,816 tons  $K_2O$ , followed in order by Ohio, Florida, Virginia, and Illinois, all receiving in excess of 50,000 tons  $K_2O$  during the year.

The most popular potash material for fertilizer was the 60% muriate of potash grade, representing approximately 79% of the total  $K_2O$  delivered for agricultural purposes. The 50% muriate of potash grade made up 8% of the total; the sulphate forms, sulphate of potash and sulphate of potash-magnesia, 8%. In an endeavor to deliver the maximum potash with the minimum number of box cars and thus decrease delivery costs, the potash producers increased their agricultural deliveries of high-grade muriate in 1945 by 49,820 tons  $K_2O$  or 8.7% and their 50% muriate by 11,950 tons  $K_2O$  or 22.7% over 1944, whereas the low-grade manure salts were reduced 14,260 tons  $K_2O$  or 27.8%. Practically no change occurred in the quantity

of sulphate of potash delivered whereas the sulphate of magnesia increased somewhat.

A record tonnage of potash salts was delivered also to the chemical industries in the United States during 1945, consisting of 131,469 tons of high-grade muriate equivalent to 82,456 tons  $K_2O$ , and 5,247 tons sulphate of potash equivalent to 2,713 tons  $K_2O$ , a total of 85,169 tons  $K_2O$ . This represents an increase of 2,971 tons  $K_2O$  or 3.6% over 1944. In addition, 689 tons  $K_2O$  were delivered to Canada for chemical purposes.

#### POTASH DELIVERIES (Short Tons $K_2O$ )

	CALENDAR YEAR 1945	CALENDAR YEAR 1944
<i>Agricultural</i>		
United States:		
Muriate 60% .....	545,429	503,082
Muriate 50% .....	61,352	50,266
Manure Salts .....	34,464	47,971
Sulphate & Sul. Pot.-Mag. ....	53,831	50,941
Total .....	695,076	652,260
Canada .....	44,454	44,629
Cuba .....	4,077	2,831
Puerto Rico .....	19,048	15,191
Hawaii .....	10,776	8,336
Total Institute Territories ..	773,431	723,247
Other Exports .....	8,897	9,468
Total Agricultural .....	782,328	732,715
<i>Chemical</i>		
United States:		
Muriate 60% .....	82,456	80,410
Sulphate of Potash .....	2,713	1,788
Total .....	85,169	82,198
Canada:		
Muriate 60% .....	689	922
Total Chemical .....	85,858	83,120
Grand Total .....	868,186	815,835

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## FERTILIZER MATERIALS MARKET

### NEW YORK

**No Relief in Tight Situation on Fertilizer Materials. Steel Strike Cuts Sulphate of Ammonia Production Drastically. More Nitrate of Soda from Chile Expected Shortly. Potash Production in 1945 Makes New Record.**

*Exclusive Correspondence to "The American Fertilizer"*

NEW YORK, February 15, 1946.

The past week has shown no indication of relief in the tightness of the fertilizer materials market, and concern is growing as to whether the industry will be able to supply domestic requirements. In view of the steel strike, the outlook for meeting nitrogen demands is particularly discouraging as other sources of nitrogen cannot expand their output to make up for the loss of ammonium sulphate produced by the steel industry. The approximately 70 per cent reduction in output of ammonium sulphate comes at a particularly bad time as manufacturers are approaching the peak of their mixing season.

The production and sales of commercial fertilizers in January was the largest ever reported for this period and amounted to 1,401,000 tons. Fertilizer sales for the first seven months of this fiscal year were considerably larger than in any preceding period.

There is still no indication that imports of various fertilizer ingredients here will be resumed in the immediate future, as under present price ceilings importers cannot compete with other countries for the foreign supplies available. The interest of UNRRA in obtaining considerable quantities of fertilizers for export has tended to further tighten current markets.

The movement of materials at this port has been further aggravated by the recent tugboat strike and the resultant difficulty of lighter transportation. However, this strike has now been settled, and shipments are being resumed on a normal basis.

#### **Sulphate of Ammonia**

Supplies of this material continue to become scarcer as the steel strike continues, and deliveries have been cut to about 15 per cent of normal for this time of year. It is reported that some suppliers have been forced to

reduce contract commitments up to June, 1946, by 25 per cent. As a result of a breakdown at one large plant, deliveries of ammonia solutions have been reduced considerably.

#### **Nitrate of Soda**

An improvement in shipments from Chile is expected shortly due to the recent settlement of labor difficulties in the nitrate producing area. Demand remains active, and in some sections exceeds available supplies. There is no indication that a larger allocation will be made for this country during the current year.

#### **Organic Materials**

Supplies of all organics continue to be far short of supplying present demands, and offerings in this market are presently non-existent. The only new development to report is the raising of the ceiling on castor pomace, which the OPA has now set at \$3.15 per unit ammonia (\$3.83 per unit N). The recent improvement of domestic production of the various packinghouse by-products has not been felt in the fertilizer industry as supplies continue to go directly to the feed trade.

#### **Superphosphate**

The present demand for ordinary super by fertilizer manufacturers is being adequately met in most areas, but the market remains in a very tight position. Inquiry for triple superphosphate remains heavy, but previous contractors are taking all available supplies.

#### **Phosphate Rock**

Producers remain under pressure to satisfy the heavy demand of domestic acidulators. Under present conditions there has been little material available for the European manufacturers of superphosphate, and producers in French Morocco are unable to meet the heavy foreign demands.



*Five reasons why*  
**Shipping Sacks**  
*Raymond Multi-Wall Paper Shipping Sacks*  
are the answer to **FERTILIZER**  
packing and shipping problems

- 1 CUSTOM BUILT** — Fertilizer producers, packers, and shippers secure the perfect sack to meet their particular packing and shipping problem.
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- 5 EXPERIENCE**—Raymond Multi-Wall Paper Shipping Sacks are the product of a company with more than fifty years of experience in making one product, Paper Shipping Sacks.

**THE RAYMOND BAG COMPANY**  
MIDDLETOWN, OHIO

**Potash**

Transportation difficulties have improved, but there is a continued absence of resale material as fertilizer mixers are requesting full contract deliveries, and material is being shipped as rapidly as produced. Deliveries of American potash for agricultural use within the continental United States amounted to 695,076 tons  $K_2O$  for 1945, which is an increase of approximately 40,000 tons over 1944.

**PHILADELPHIA**

**Labor Trouble Adds to Fertilizer Material Shortage. Almost No Spot Goods on Market.**

*Exclusive Correspondence to "The American Fertilizer"*

PHILADELPHIA, February 15, 1946.

On top of the shortage of fertilizer materials which has been prevailing, the labor situation has made things even tighter. While some materials of all types do move, yet it is mostly against old contracts, and odd spot lots are difficult to find.

**Organic Ammoniates.**—The packing house strike did not help an already bad situation. An odd car or so of tankage or blood is traded in the market once in a while, but buyers still outnumber sellers.

**Sulphate of Ammonia.**—Another item in which the labor situation has aggravated a prevailing shortage.

**Nitrate of Soda.**—It is hoped that better conditions in Chile will cause an increased supply of this material.

**Superphosphate.**—Shipments are moving against contracts but supply is none too plentiful.

**Bone Meal.**—While a car or two appears in the market once in a while, it is quickly snapped up.

**Potash.**—A good demand prevails but outside of shipments against old orders, little trading has occurred.

**Castor Pomace.**—Old customers get the preference for any available supplies.

**CHARLESTON**

**Shortage of Mixed Goods Possible by End of Season. All Nitrogen Materials in Short Supply. Cyanamid Deliveries May Be Curtailed.**

*Exclusive Correspondence to "The American Fertilizer"*

CHARLESTON, February 15, 1946.

Orders for mixed goods have become quite heavy and, with the general situation on all fertilizer materials, it is questionable whether the manufacturers will be able to supply all the demand this season.

**Organics.**—The market is completely bare of offerings.

**Sulphate of Ammonia.**—The shortage of this material is becoming quite serious and each day that the steel mills remain closed aggravates the general fertilizer situation on account of the shortage of other minerals.

**Nitrogen Solutions.**—Due to a breakdown in one of the plants, deliveries of these have been delayed.

**Cyanamid.**—Fertilizer manufacturers have been notified that there is a question as to whether their total contracts can be delivered due to the fact that UNRRA wishes 36,000 tons for Europe and Asia.

**CHICAGO**

**Fertilizer Organics Demand Far Exceeds Available Supplies. Feed Materials Production Below Demands in All Lines.**

*Exclusive Correspondence to "The American Fertilizer"*

CHICAGO, February 16, 1946.

Demand for all organics and bone meal continues far ahead of available supplies. Whenever any appears on the market, which invariably is a small amount, it is quickly absorbed at full ceiling price. There seems but little indication of easing in the near future of this tight market.

The feeding trade finds production below demand. This situation exists not only in

Manufacturers' Sales Agents for **DOMESTIC**

**Sulphate of Ammonia**

Ammonia Liquor

::

Anhydrous Ammonia

**HYDROCARBON PRODUCTS CO., INC.**

**500 Fifth Avenue, New York**

meat protein but in corn and other grains as well.

Ceiling prices are:

High grade ground fertilizer tankage, \$3.85 to \$4.00 (\$4.68 to \$4.86 per unit N) and 10 cents; standard grades crushed feeding tankage, \$5.53 per unit ammonia (\$6.72 per unit N); blood, \$5.53 (\$6.72 per unit N); dry rendered tankage, \$1.25 per unit of protein, f. o. b. producing points.

### International Paper Products Opens Boston Office

International Paper Products Division of International Paper Company has opened a branch sales office at 45 Milk Street, Boston, Mass. The office will handle sales of Multiwall Kraft paper bags made by the company's subsidiaries, Bagpak, Inc., and George and Sherrard Paper Company, and will cover the New England territory and New York State with the exception of New York City. The office will be in charge of A. G. Clarke, district sales manager.

### Alabama Tonnage

Over 700,000 tons of fertilizer were bought by Alabama farmers last year—the largest amount on record. Less than 300,000 tons were used on cotton. In 1928, the second highest year in fertilizers purchased, 430,000 of the 692,000 tons bought were used for cotton. Farmers use more fertilizer per acre on cotton, but have less acres in the crop.

### Top Dressing Indiana Wheat Gives Good Results

Availability of ammonium nitrate this winter comes as encouraging news to farmers in the market for fertilizer. Furthermore, fertilizer manufacturers have perfected a means for "water-proofing" the material so that it no longer becomes a sticky mass in the bag, says George Enfield, Purdue University agronomist.

The coming season promises good returns for nitrogen top dressings, as last season's heavy rainfall encouraged destruction of all readily decomposable organic matter. Under such conditions soils cannot provide the nitrogen requirements of wheat, making top-dressing with nitrogen fertilizer profitable.

**CASE HISTORY No. 2**  
in a series of factual experiences of a group of American manufacturers with Multiwall Paper Bags.

### COST COMPARISON

	Open-Mouth Burlap Bags	Multiwall Paper Valve Bags
Bag Cost per M	\$142.00	\$76.00
Bag Cost per 100 lbs.	.142	.076
Labor Cost per 100 lbs.	\$ _____	\$ _____
	(eight men packed 500 100-lb. bags per hr.)	(five men now pack 600 100-lb. bags per hr.)
Total Bag and Labor Cost per 100 lbs.	\$ _____	\$ _____
Saving per Bag, Paper over Burlap		\$ _____
Saving per Ton, Paper over Burlap		\$ _____

NOTE to fertilizer manufacturers: We suggest that you fill in the blanks from your own cost figures and compute savings with multiwall paper valve bags.

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CHEMICALS  
FEEDSTUFFS

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FLUFFY  
FREE-FLOWING

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HEAVY  
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### ST. REGIS BAG PACKAGING SYSTEMS

are made in a variety of capacities, speeds, and manpower requirements to suit specific products and plant layouts. Machines are available in types to meet the special characteristics of a wide range of products, with filling speeds as high as twenty-four 100-lb. bags per minute—with one operator.

# LOWER PACKAGING COSTS...

## BETTER PRODUCT PROTECTION— another MULTIWALL success story

This case history relates the experience of several fertilizer manufacturers who are enthusiastic about St. Regis Valve Bag Packaging systems for three important reasons:

### ECONOMY:

#### Increased Production:

Daily average 20% higher with St. Regis packer.

#### Reduced Labor Costs:

Packing operation with 5 men, instead of 8 men formerly required.

### Reduced Container Costs:

Multiwalls approximately 50% of cost of burlap bags.

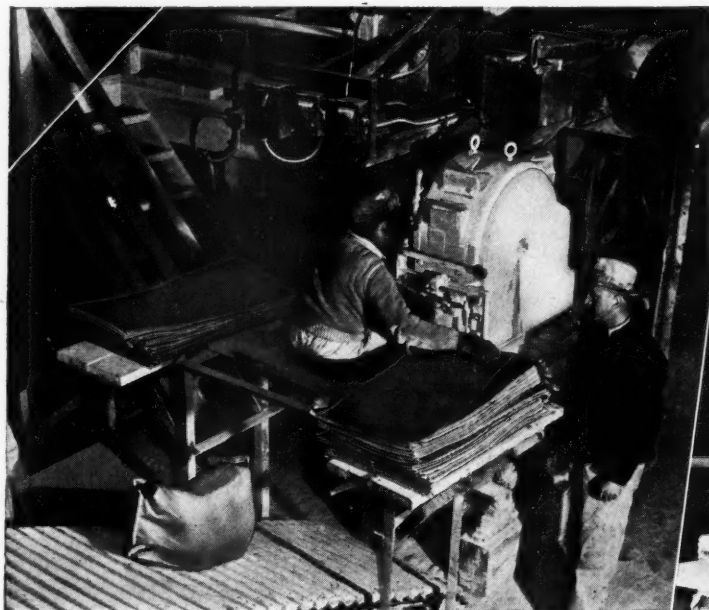
### CORRECT WEIGHTS:

Eliminates customer complaints about sift-age and retention losses.

### BETTER PRODUCT PROTECTION:

Custom-built multiwalls protect products from damaging dampness.

Multiwalls are specially constructed to handle and protect fertilizer of various analyses.



(At left) This high-speed St. Regis Packer fills Multiwall Paper Bags and weighs them simultaneously.

(Below) Illustrating the quick, easy handling of Multiwall Paper Bags.



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*Without obligation,* please send me full details regarding the "Case History" outlined above.

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ADDRESS \_\_\_\_\_



Profitable increases can be expected on unmanured wheat fields that have not grown clover or alfalfa recently but have been well fertilized at seeding time with complete fertilizer or at least phosphate and potash.

Satisfactory results which were obtained by 77 co-operating farmers using sulphate of ammonia on demonstration plots last year can likewise be applied to use of ammonium nitrate, as the nitrogen top-dressing results came from the available nitrogen.

In northern Indiana the average yield of wheat which was top-dressed produced an increase of 3.3 bushels to the acre. In southern Indiana the average increase was 4.3 bushels to the acre. It was felt that light sandy soils could always be expected to produce good results from top-dressing.

A large percentage of the co-operators reported that the top-dressing produced taller wheat with more straw, while many of them said that there was no more noticeable lodging of the wheat that was top-dressed than where it was not.

output. The figures do not include the shortage which is occurring at present because of the prolonged steel strike. Shipments during the year totaled 800,969 tons as compared with 776,962 tons in 1944. As a consequence, stocks on hand December 31, 1945, had dropped to 32,164 tons, compared with 69,031 tons at the end of 1944.

## PRODUCTION—1945

	SULPHATE OF AMMONIA Tons	AMMONIA LIQUOR Tons $NH_3$
January.....	67,331	2,513
February.....	62,504	2,260
March.....	70,412	2,412
April.....	64,139	2,339
May.....	69,218	2,427
June.....	63,962	2,281
July.....	67,327	2,327
August.....	63,259	2,251
September.....	62,642	2,267
October.....	49,298	1,996
November.....	59,726	2,221
December.....	63,388	2,314
Total.....	763,206	27,608
Total-1944.....	818,244	31,665

### Sulphate of Ammonia Production Drops during 1945

According to the figures of the U. S. Bureau of Mines, production of by-product sulphate of ammonia continued at a rate of about 2,000 tons per day during December. The output of 63,388 tons was 6.1 per cent above that of November but 8.7 per cent under December, 1944. Shipments during December totaled 57,683 tons, which increased stocks on hand at end of year to 32,164 tons.

The preliminary figures for the 1944 production show a total of 763,206 tons, compared with 818,244 tons in 1944, a drop of 6.7 per cent. In almost every month production showed a small decrease from the same month of 1944, with a sharp drop in the October

## SHIPMENTS—1945

	SULPHATE OF AMMONIA Tons	AMMONIA LIQUOR Tons $NH_3$
January.....	75,982	2,106
February.....	75,885	2,186
March.....	82,932	2,504
April.....	69,743	2,373
May.....	75,985	2,208
June.....	61,839	2,122
July.....	64,870	2,033
August.....	61,639	2,095
September.....	64,896	1,902
October.....	52,843	1,918
November.....	56,672	2,131
December.....	57,683	2,066
Total.....	800,969	25,644
Total-1944.....	776,962	30,004



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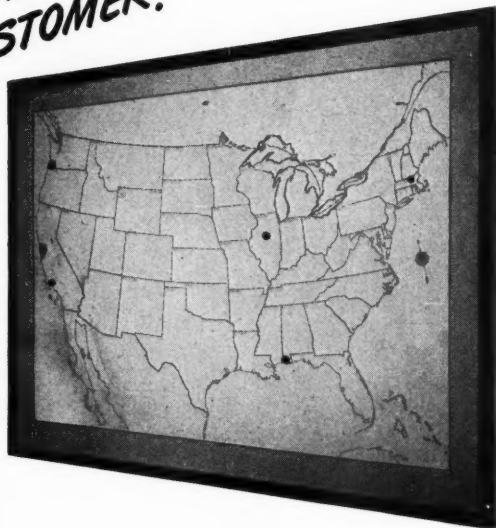
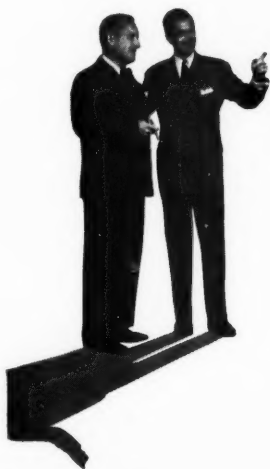
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"It's a Dolomite"

**American Limestone Company**  
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*"Yes, that's one reason Fertilizer Manufacturers find IT PAYS TO BE A BEMIS MULTIWALL CUSTOMER!"*



The strategic locations of the six Bemis Multiwall Plants mean quick service to all sections of the country. And that's not all . . . working as a team, these plants support each other in filling the needs of Bemis customers. In emergencies, the plant with which an order is placed can depend on five other Bemis plants for assistance in meeting scheduled shipping dates. Such advantages are why folks in the fertilizer industry say: "It pays to be a Bemis Multiwall Customer."

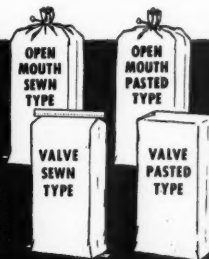
## BEMIS BRO. BAG CO.

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Peoria • East Pepperell, Mass. • Mobile, Ala. • San Francisco, Calif. • Wilmington, Calif. • St. Helens, Ore.



### Fertilizer Produced Record Wartime Crops

According to figures compiled by the National Fertilizer Association, the ratio of fertilizer consumption to crop acreage in the United States more than doubled from 1935 to 1945. That was an important contributing factor to the one-third increase in average crop yields in that same period. The ability of the commercial fertilizer industry to supply steadily increasing quantities of plant food each year from 1939 through 1945 helped to make possible the new records in farm production during the war.

The following table shows the relationship of fertilizer consumption to crop acreage, assuming that fertilizer was used evenly on all the crop land in the country. Actually,

Year	Pounds of fertilizer per acre of crop land	Year	Pounds of fertilizer per acre of crop land
1935	34	1941	53
1936	38	1942	57
1937	45	1943	63
1938	43	1944	65
1939	48	1945	73
1940	53		

of course, a large proportion of crop land, particularly in the West, is not fertilized. In addition, not all fertilizer is used on farm crop land, some being applied to golf courses, lawns and vegetable gardens. The general trend as shown by the table, however, is correct.

Until fairly recent years, a program for sharply increased agricultural production in this country would have resulted in increased acreage under cultivation. That happened in World War I, for instance, when farmers increased their total crop acreage by 30,000,000 acres, with one result being the Western Dust Bowl a decade and a half later. There was a shortage of fertilizer in 1915-1918 and the most effective way of increasing production was to increase acreage.

In World War II there were sharply increased supplies of fertilizer, produced by the American fertilizer industry. Farmers did not increase their acreage much, but increased yields gave the needed added production. The table below shows harvested acreages and crop yields in the last three years as percentages of the 1935-1939 averages. Increases in acreages of some crops, particularly oil-bearing crops and vegetables, were about offset by declines in acreages of other crops.

CROP	HARVESTED ACREAGE PER CENT OF 1935-39 AVERAGE			YIELD PER ACRE PER CENT OF 1935-39 AVERAGE		
	1943	1944	1945	1943	1944	1945
Corn.....	102	105	98	128	132	132
Wheat.....	88	103	113	126	137	131
Oats.....	107	108	116	102	102	128
Cotton.....	78	72	64	112	130	111
Tobacco.....	88	106	112	109	127	125
Tame Hay.....	109	107	107	108	106	115
Potatoes.....	110	96	93	119	112	128
Peanuts.....	217	190	192	81	90	88
Soybeans.....	351	342	357	100	101	97
21 Vegetables.....	112	112	122	—	—	—
All Crops.....	101	102	100	116	124	122

### CLASSIFIED ADVERTISEMENTS

Advertisements for sale of plants, machinery, etc., and for help and employment in this column, same type as now used, 60 cents per line, each insertion.

**WANTED** to purchase—outright or controlling interest in going fertilizer business. Address "170," care THE AMERICAN FERTILIZER, Philadelphia 7.

#### FOR SALE

**ONE** Stedman All-Steel Self-Contained Fertilizer Mixing Unit complete with ½ ton Batch Mixer, capacity 10 to 15 tons per hour—used very little. WHITE-HEAD Co., Chatham, Va.

## STEDMAN FERTILIZER PLANT EQUIPMENT

Dependable for more than 50 Years

All-Steel  
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Mixing Units  
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Pan Mixers—  
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and Cage Type  
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**STEDMAN'S**

FOUNDRY & MACHINE WORKS  
AURORA, INDIANA, U.S.A. Founded 1834

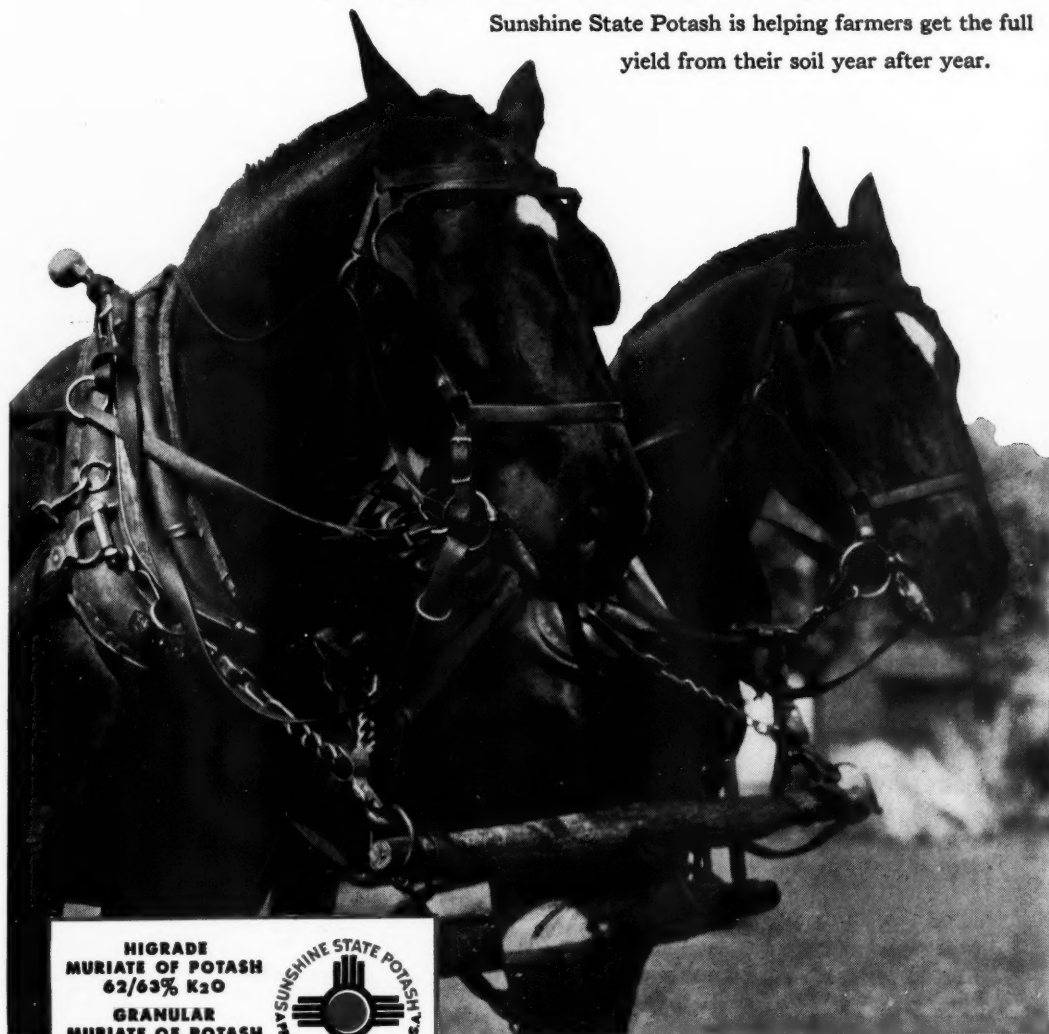
## STILL EARNING THEIR KEEP!

Horses still aid the farmers, though many teams have been replaced by the tractor.

But no matter what replacements are made on the farm, there can be no substitute for one important farming aid—fertilizer.

Fertilizer is essential for bumper crop yields. Most fertilizers are compounded with potash . . . the vital soil nutrient which increases soil fertility and provides greater resistance to disease and drought.

Sunshine State Potash is helping farmers get the full yield from their soil year after year.



HIGRADE  
MURIATE OF POTASH  
62/63%  $K_2O$   
GRANULAR  
MURIATE OF POTASH  
48/52%  $K_2O$   
MANURE SALTS  
22/26%  $K_2O$



**UNITED STATES POTASH COMPANY**

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30 Rockefeller Plaza, New York 20, N. Y.

## New England Fertilizer Conference

About 125 members of the industry, college workers, and feed distributors attended the New England Fertilizer Conference at Amherst, Mass., on February 12th and 13th. Director F. J. Sievers presided at the regular sessions and E. S. Russell, member of the board of directors, presided at the dinner in the evening, introducing prominent guests and the speaker, Rev. R. H. Shipherd, whose topic was "The Philosophy of Life." J. S. Owens, Connecticut extension agronomist, reported the minimum fertilizer grades recommended by New England agronomists for 1947: 0-14-14, 7-7-7, 5-10-5, 5-10-10, 4-12-8, 4-12-16, 6-3-6, 5-5-15, and 5-8-7 for tobacco; with 4-12-12 recommended for New Hampshire potatoes, and 5-7-10 and 6-9-15 for Maine potatoes.

Dr. Raymond G. Bressler, Jr., University of Connecticut, in talking on changes in New England agriculture, stressed the point that New England livestock values have increased 250 per cent in the past 50 years, but that poultry, potatoes, vegetable and milk production will meet increasing competition in the years ahead. Only 6 per cent of New England's population now lives on farms.

Prof. J. G. Archibald, Massachusetts State College, talked on the importance of mineral elements in animal nutrition, either supplied through the soil or feed. The application of 400 to 500 pounds of complete fertilizer per acre to pastures increased protein content about 40 per cent and doubled the total protein yield in Massachusetts experiments. In other work the application of 400 pounds of 8-16-16 on 14 plots gave an average increase in carotene (vitamin A content) of 70 to 80 per cent. He pointed out that the elements chlorine, sodium, phosphorus, and calcium, in that order, are most important to animal growth and that an average of 10 years' results showed that the use of phosphatic fertilizer increased the phosphorus content of grass 18 per cent in Massachusetts experiments. Iodine, iron, copper, cobalt, magnesium, and perhaps manganese are also important in proper mineral nutrition of animals.

Prof. G. P. Percival, New Hampshire, pre-

sented results of cobalt deficiencies in livestock, pointing out its wide distribution in the more deficient soil types of New Hampshire (granite outwash and Gloucester soils especially) and the almost miraculous recovery effected by adding cobalt supplement to the feed.

Dr. A. B. Beaumont, extension soil conservationist, Massachusetts, pointed out that New England needs to use a great deal more fertilizer to grow sufficient cover and sod crops to reduce erosion and aid in soil conservation. Dairy farmers especially could use about two and a third times as much fertilizer as at present.

Harold Shaw, a progressive farmer of Sanford, Me., pointed out the rapid progress made in the last 10 to 15 years, resulting in about 20 per cent of New England dairy farmers developing grass fertilizing programs. In these programs milk production is looked upon as a crop. More plant food must be added to the soil than merely that of the manure from the farm alone. The other 80 per cent of dairy farmers who need to fertilize pastures and haylands to reduce costs and maintain fertility are the hardest to convince of its desirability because of the competition for the sales return.

Dr. J. A. Chucka, Maine, pointed out that total soil analyses, quick tests, leaf tissue tests, and analyses of crops grown are merely tools in diagnosing plant requirements and urged that sufficient plant food be applied per acre to replace that removed by the crop.

In an informal discussion in closing the grassland program, George Waugh of Concord, N. H., pointed out that the cooperation of the grain dealers should be called upon to sell the farmer the idea that \$10.00 worth of fertilizer put on the land would give several times that amount in increased quality of hay.

Ralph Donaldson, extension agronomist, talking on the same subject, reported that Massachusetts has had 105 per cent increase in fall sales in 1945 on grasslands over 1944. M. H. Lockwood pointed out that while ammonium sulphate, potash, and organic sources of nitrogen are definitely limited, the whole fertilizer supply situation is not as black as is sometimes expressed.

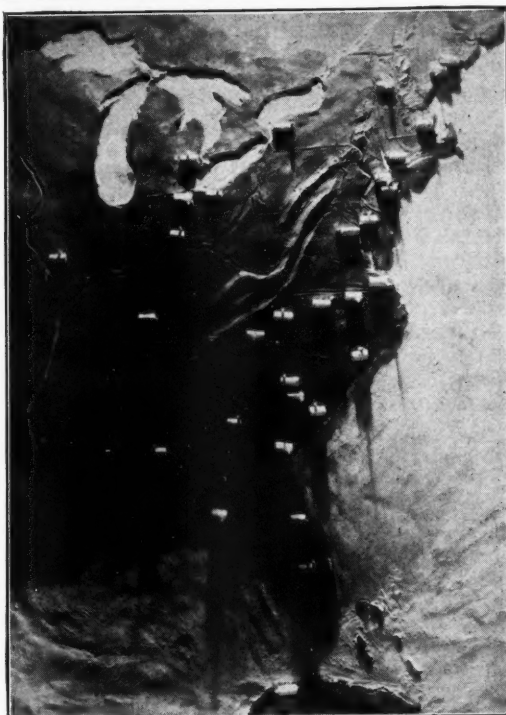
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## Smaller Superphosphate Output in December

Production of superphosphate during the month of December showed a drop of 8.2 per cent from November, according to the statistics of the U. S. Bureau of Census. These figures, which cover all superphosphate producers, including government plants, show a total of 655,920 tons, figured on the basis of 18 per cent APA, compared with 718,023 tons in November. The December output, however, was 9.1 per cent above that of December, 1944. Shipments were approximately equal to production, and stocks on hand at the end of the year were about 900,000 tons, basis 18 per cent APA.

### PRODUCTION:

December, 1945.....	593,089	23,484	4,121
November, 1945.....	651,449	24,893	4,341
December, 1944.....	537,716	23,910	3,553

### SHIPMENTS AND USED IN REPORTING PLANTS:

December, 1945.....	594,361	24,530	318
November, 1945.....	674,446	21,370	1,438
December, 1944.....	545,091	20,629	763

### STOCKS ON HAND:

December 31, 1945.....	807,632	32,556	15,557
November 30, 1945.....	802,765	33,602	11,771
December 31, 1944.....	794,778	32,488	13,106

## Nitrogen Gives Cheap Protein

Estimates by Purdue University agronomists for permanent pasture allow for one-third acre of grass pasture per cow. When it has been fertilized at the rate of 150 pounds of ammonium nitrate per acre, growth will be speeded up to make two weeks earlier grazing and save that much barn feeding costs. Protein can be grown in this way for about three cents a pound compared to ten cents per pound in purchased dairy feed. Balbo rye will give a similar response.

## More Nitrogen for Oregon Farmers

With promise of greatly expanded manufacturing capacity of nitrogen fertilizers compared with prewar years, Oregon farmers can profit by increased use of this important fertilizer element, says Dr. W. L. Powers, head of the soils department at O. S. C., in reporting recent fertility experiments.

In trials last season an increase of 321 pounds of corn fodder were obtained per pound of nitrogen used. This maximum yield per unit of fertilizer applied was obtained on Amity silty clay loam where 32 pounds of nitrogen, or the equivalent of 200 pounds of nitrate of soda, per acre, were used.

—Oregon Extension Service.

## ANTI-RACKETEERING BILL DESERVES SUPPORT

(Continued from page 11)

It is worthy of note that the authorities of New York City, where these outrages were committed, gave no protection whatever to the victims of the racket. Federal action in the case was based on the ground that the racketeers were guilty of obstructing interstate commerce, bringing the matter under the jurisdiction of the Federal government.

In a vigorous dissenting opinion to the Supreme Court decision, Chief Justice Stone said that there was evidence in the record to show that the defendants in the case conspired to compel truck drivers or their employers, by force and violence, to pay the sums of money demanded. He further said that the payments were made by the drivers and truck owners to purchase immunity from violence, and that this was the end knowingly sought by members of the union. Justice

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Stone likewise declared that to sanction such practices would make common law robbery appear "as an innocent pastime."

#### Farmers Still Victimized

During the course of the debate on the bill, it was claimed by some members of the House that the abuses which the Hobbs Bill aims to correct no longer exist.

However, other members stoutly denied this. Congressman H. Carl Andersen of Minnesota submitted an editorial from the Dawson (Minnesota) *Sentinel*, to show the length to which racketeering members of the teamsters' union go in his section of the country. The editorial was as follows:

"Last week a Dawson farmer was sent to Des Moines, Iowa, to pick up some machinery needed to complete the installation of corn driers at the local elevators. The trucker made the trip without mishap or difficulty with Iowa labor groups. He loaded his truck with his shipment and then was told by labor representatives that he not only had to unload the truck and take it back to Dawson, 300 miles away, empty, but also that he had to join the local trucker's union and pay dues of \$32 before they would permit him to leave with his truck! And this is a free country where free enterprise is encouraged. Any other organization or individual attempting such action would have been promptly jailed and charged with highway robbery, and in addition would probably have to answer charges of threatening, intimidation, and interference with commerce. It is incidents like this which make one wonder just how far some can go with racketeering methods without being made to account for their actions."

#### Some Examples from California

Congressman Jack Anderson of California, who is a farmer, said:

"A lot of our produce is hauled into the city of San Francisco. The man who drives the truck, who hauls our fruit and produce into San Francisco, must belong to the teamsters' organization or he must pick up a member of the teamsters' organization, carry him on the truck to the point of unloading and pay him for all the time that the truck is in the city of San Francisco.

"The farmers of the four counties I represent have been forced on many occasions, while hauling their own produce in their own trucks, to pick up members of labor organizations at the city limits of San Francisco, carry them on the truck to the point of unloading and back again to the city limits and pay them their wage for that period of time. This must be done in spite of the fact that the man who is thus paid does no work as far as driving or unloading the truck is concerned."

#### A Few Typical Cases

To show that the racketeering complained of is still being practiced, last summer a fruit grower connected with the Berks-Lehigh Cooperative Fruit Growers, Inc., of Pennsylvania, took a load of 225 bushels of peaches to Philadelphia. Before the driver of the truck was permitted to unload the peaches he was compelled to join the Philadelphia local of the teamsters' union, which cost him \$29.

Later a driver for the same organization carried a consignment of peaches to Newark, New Jersey. In this case the driver was obliged to join the Newark local of the teamsters' union before he could unload. The fee charged in this instance was \$51. There have been innumerable instances of this kind.

The Walker-Gordon dairy farm, of Plainsboro, N. J., was outrageously treated by the Newark local of the teamsters' union last year. The union boycotted the milk of this company during January, 1945, and in a period of about two weeks the owners of the farm lost about \$20,000. In the end the company had to agree to let the union organize the 150 workers at its plant, although the majority of the workers had no desire whatever to join the teamsters' union.

Since more than two years have elapsed since the hearings were held on the original Hobbs Bill, it is possible that the Senate committee on judiciary may appoint a subcommittee to hold new hearings. There could be no legitimate objection to such a procedure. However, the supporters of the Hobbs Bill want action this time. They do not want the measure to be smothered by inaction in the Senate, the fate that befell the previous bill.

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When Boron deficiencies are found, follow the recommendations of local County Agents or State Experiment Stations.

Information and references available on request.

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*See Page 4*



### CORRECTING POTASH DEFICIENCY IN GROWING CORN

(Continued from page 9)

this element would not be a limiting factor in plant growth. All treatments were replicated four times. The fertilizer materials were applied by hand in small furrows along the corn rows approximately 2 inches deep and 2 to 3 inches away from the plants, and then covered. The first test was put out June 14; the second, July 3; and the third, July 17—40, 59, and 73 days respectively after corn planting. These fertilizer applications were made during a period of one of the most severe drouths in Tennessee history. June had only 0.20 inch of rainfall and July 1.40 inches. Four-row plots were used, but only the two center rows of each plot (1/100 acre) were harvested for yield determinations.

#### Results

Despite the dry weather, the potash-starved corn responded to potash fertilization. The corn fertilized June 14—40 days after planting—showed the greatest improvement and produced the highest yields; the second date of application, July 3—59 days after planting—was next best; and the third date, July 17—73 days after planting—was poorest. This last application, while giving some correction of potash deficiency, was too late for good results.

An application of 25 pounds of potash per acre resulted in a marked improvement in the corn plants. When compared with the untreated plots, this rate increased yields of

shelled corn 12.2 bushels, 12.7 bushels, and 3.0 bushels per acre when applied 40, 59, and 73 days respectively after corn planting, as shown by table I. Increasing the rate of potash to 50 pounds per acre resulted in a further increase of 12 bushels per acre over the 25-pound rate only when applied 40 days after planting. At the second and third dates of application, the 50-pound rate produced approximately the same yields as the 25-pound rate. The highest yields of corn at all application dates were obtained from the 100-pound rate. On the three respective dates of application this rate increased the yields of shelled corn 27.1 bushels, 17.7 bushels, and 6.8 bushels per acre as compared with the no-treatment plots.

#### Small Applications Effective

Plant-deficiency symptoms were largely corrected even where only 25 pounds of potash per acre were applied, as indicated when the potash was applied 40 days after planting. Potash applied 59 days after planting produced similar results. While some improvement was noted in corn fertilized with potash 73 days after planting, many of the plants and leaves were too far gone to recover.

The ears produced by potash-starved plants were largely nubbins, and the cobs were inadequately filled out. Not only did the plants receiving the potash applications yield more, but the ears produced by these plants were larger and better filled out than those of the potash-starved plants. Corn of better quality was produced by the higher applications of potash—50 and 100 pounds per acre.

TABLE I—Grain yields of potash-starved corn when fertilized with potash at different rates and on different dates, Knox County, 1944

POTASH APPLIED PER ACRE	ACRE YIELDS OF SHELLED CORN		
	40 DAYS AFTER PLANTING, JUNE 14	59 DAYS AFTER PLANTING, JULY 3	73 DAYS AFTER PLANTING, JULY 17
Pounds	Bushels	Bushels	Bushels
0	3.7	8.7	8.1
25	15.9	21.4	11.1
50	27.9	21.9	10.2
100	30.8	26.4	14.9

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International Minerals & Chemical Corporation, Chicago, Ill.  
McIver & Son, Alex. M., Charleston, S. C.  
Scar-Lipman & Co., Inc., Irvington, N. J.  
Schmaltz, Jos. H., Chicago, Ill.

### NITROGEN SOLUTIONS

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Ashcraft-Wilkinson Co., Atlanta, Ga.  
Bradley & Baker, New York City.  
DuPont de Nemours & Co., Wilmington, Del.  
Huber & Company, New York City.  
International Minerals & Chemical Corporation, Chicago, Ill.  
McIver & Son, Alex. M., Charleston, S. C.  
Scar-Lipman & Co., Inc., Irvington, N. J.

### NOZZLES—Spray

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Huber & Company, New York City.  
International Minerals & Chemical Corporation, Chicago, Ill.  
McIver & Son, Alex. M., Charleston, S. C.  
Ruhm, H. D., Mount Pleasant, Tenn.  
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Schmaltz, Jos. H., Chicago, Ill.  
Southern Phosphate Corp., Baltimore, Md.  
Virginia-Carolina Chemical Corp., Richmond, Va.

### PLANT CONSTRUCTION—Fertilizer and Acid

Chemical Construction Corp., New York City.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.  
Utility Works, The, East Point, Ga.

### POTASH SALTS—Dealers and Brokers

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Ashcraft-Wilkinson Co., Atlanta, Ga.  
Bradley & Baker, New York City.  
Huber & Company, New York City.  
International Minerals & Chemical Corporation, Chicago, Ill.  
Scar-Lipman & Co., Inc., Irvington, N. J.  
Schmaltz, Jos. H., Chicago, Ill.

### POTASH SALTS—Manufacturers

American Potash and Chem. Corp., New York City.  
Potash Co. of America, New York City.  
International Minerals & Chemical Corp., Chicago, Ill.  
United States Potash Co., New York City.

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### PYRITES—Brokers

Ashcraft-Wilkinson Co., Atlanta, Ga.

### REPAIR PARTS AND CASTINGS

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Stedman's Foundry and Mach. Works, Aurora, Ind.  
Utility Works, The, East Point, Ga.

### ROUGH AMMONIATES

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McIver & Son, Alex. M., Charleston, S. C.  
Scar-Lipman & Co., Inc., Irvington, N. J.  
Schmaltz, Jos. H., Chicago, Ill.

### SCALES—Including Automatic Bagging

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Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.  
Utility Works, The, East Point, Ga.

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### SCREENS

Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, At rora, Ind.  
Utility Works, The, East Point, Ga.

### SEPARATORS—Air

Sackett & Sons Co., The A. J., Baltimore, Md.

### SPRAYS—Acid Chambers

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### STEVEDORES

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Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
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Nitrogen Products, Inc., New York City  
Scar-Lipman & Co., Inc., Irvington, N. J.  
Schmaltz, Jos. H., Chicago, Ill.

### SULPHUR

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Texas Gulf Sulphur Co., New York City.  
Virginia-Carolina Chemical Corp., Richmond, Va.

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Ashcraft-Wilkinson Co., Atlanta, Ga.  
Bradley & Baker, New York City.  
Huber & Company, New York City.  
International Minerals & Chemical Corporation, Chicago, Ill.  
McIver & Son, Alex. M., Charleston, S. C.  
Scar-Lipman & Co., Inc., Irvington, N. J.  
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

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Ashcraft-Wilkinson Co., Atlanta, Ga.  
Bradley & Baker, New York City.  
Huber & Company, New York City.  
International Minerals & Chemical Corporation, Chicago, Ill.  
McIver & Son, Alex. M., Charleston, S. C.  
Scar-Lipman & Co., Inc., Irvington, N. J.  
Schmaltz, Jos. H., Chicago, Ill.  
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.  
Virginia-Carolina Chemical Corp., Richmond, Va.

### SUPERPHOSPHATE—Concentrated

Armour Fertilizer Works, Atlanta, Ga.  
International Minerals & Chemical Corporation, Chicago, Ill.  
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.  
Virginia-Carolina Chemical Corp., Richmond, Va.

### TANKAGE

American Agricultural Chemical Co., New York City.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Bradley & Baker, New York City.  
International Minerals & Chemical Corporation, Chicago, Ill.  
McIver & Son, Alex. M., Charleston, S. C.  
Scar-Lipman & Co., Inc., Irvington, N. J.  
Schmaltz, Jos. H., Chicago, Ill.

### UREA

DuPont de Nemours & Co., E. I., Wilmington, Del.

### UREA-AMMONIA LIQUOR

DuPont de Nemours & Co., E. I., Wilmington, Del.

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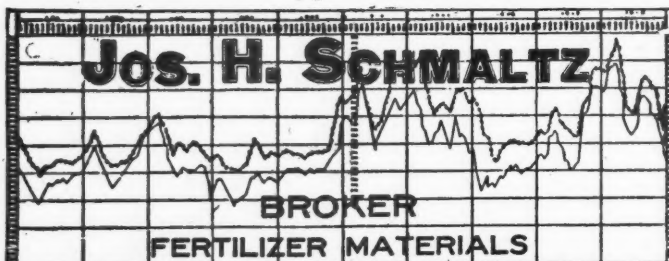
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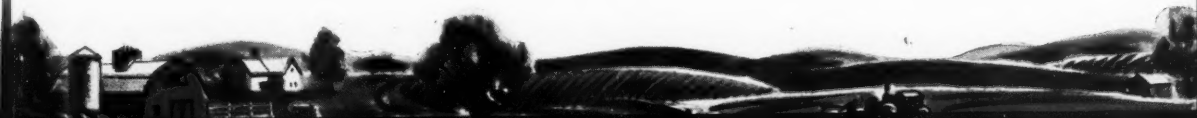
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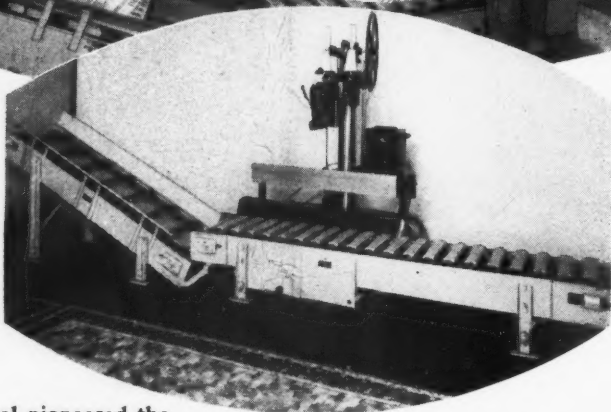
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